

Safety and Enforcement Division Quality Assurance of the Pacific Gas and Electric Pipeline Safety Enhancement Plan.

The California Public Utilities Commission (CPUC) has ordered the Pacific Gas and Electric Company (PG&E) to develop a plan to ensure safety of its natural gas transmission system, known as the Pipeline Safety Enhancement Plan. The Safety and Enforcement Division (SED) of the CPUC is overseeing the development and implementation of PG&E's Pipeline Safety Enhancement Plan to ensure that the opportunity to improve safety is maximized throughout this effort.

The PG&E Pipeline Safety Enhancement Plan is an undertaking of an unprecedented magnitude. As originally proposed, Phase I includes pressure testing 783 miles of pipeline, replacement of approximately 185 miles of pipeline, installation of 228 automated valves, upgrades to 199 miles of pipeline to allow for in-line inspection, and in-line inspection of 234 miles¹. PG&E is also updating its database after the conclusion of its Maximum Allowable Operating Pressure (MAOP) validation and record search effort, which was mandated by the CPUC.

The CPUC performed a thorough analysis of PG&E's Pipeline Safety Enhancement Plan, approving it on December 20, 2012. The SED team supported the decision-makers by providing technical expertise in analyzing the record in the proceeding² and providing recommendations throughout the process. Having completed the MAOP validation effort, PG&E is scheduled to submit to the CPUC an update to the Pipeline Safety Enhancement Plan in the third quarter of 2013. The SED team will once again provide its technical expertise to the decision-makers as it assess the safety impacts of the proposed PG&E plan update.

The involvement of the SED team in overseeing PG&E's Pipeline Safety Enhancement Plan goes far beyond the formal proceeding. SED gas safety experts perform an ongoing review of PG&E activities, including both review of PG&E's procedures, standard practices, and execution of the work in the field. Field work review by SED includes maintenance, operations, and construction activities.

In order to perform diligent quality assurance of PG&E's Pipeline Safety Enhancement Plan, SED has developed a quality assurance plan that outlines key PG&E activities that require SED oversight. The SED plan is based on the four core components of the Pipeline Safety

¹ PG&E operates 7,199 miles of natural gas transmission pipeline, with 2,088 miles in High Consequence Area pipeline (HCA).

² PG&E PSEP was filed in the Gas Safety OIR proceeding R. 11-02-019

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Enhancement Plan program: Planning, Design, Execution, and Quality Assurance/Quality Control (QA/QC).



For each of the four core components, the SED team has identified major activities and is in progress of performing review and inspection activities.

The work involved in implementing the Pipeline Safety Enhancement Plan is estimated to cost more than two billion dollars, it requires more than 1,300 PG&E staff and contractors, and more than 300 discrete projects and processes that touch almost every aspect of PG&E's operations. Because this is such an enormous undertaking, the SED team has identified areas that need SED review based on the following criteria:

- Level of "safety risk" associated with work performed or process execution;
- Importance of a process or activity to the overall success of the program;
- Levels of redundancy and oversight already built into the process (e.g., number of entities performing quality assurance of a specific step);
- Best practical approach to ensure quality of the result (e.g., watching over every step of the process vs. performing a review of the result); and,
- Level of audit necessary to ensure proper implementation Federal and State Gas Safety Regulations.

The specifics of the SED team oversight continue to evolve as lessons learned are incorporated into SED practices. According to current projections, the SED team will audit more than 90 percent of all the field work performed by PG&E during the execution of the Pipeline Safety Enhancement Plan in 2013 through 2014. SED field auditors are ensuring that PGE's field procedures are followed and if discrepancies are noted SED auditors, along with PGE inspectors, take immediate action to correct the discrepancies while in the field. To supplement the workforce and expertise of the SED team, the CPUC has also brought on a contractor, Bureau Veritas, to assist with the quality assurance of PG&E's Pipeline Safety Enhancement Plan work. The SED team will continue to use all the resources available to ensure that PG&E's Pipeline Safety Enhancement Plan delivers on the vision of a safe transmission pipeline system.

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The SED team bases its quality assurance approach on the principles of leadership within the gas safety industry, innovation, and continuous improvement. As such, the SED approach will evolve to incorporate best practices and lessons learned. The SED team will continue to provide updates on the progress of PG&E's Pipeline Safety Enhancement Plan and related SED team activities.

To further improve the program, the SED team welcomes recommendations and comments, which can be directed to the Deputy Director of the Safety and Enforcement Division: Elizaveta Malashenko at elizaveta.malashenko@cpuc.ca.gov or 415-703-2274.